





# Stainless Steel Compression Fitting Range

## Stainless Steel Fittings

### Stud Fittings

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### Tube-to-Tube Fittings

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# Stainless Steel Compression Fittings

**Manufactured in 316L stainless steel**, these fittings combine all the advantages of the "universal" compression fitting with **excellent resistance** to environmental conditions and **corrosive fluids**. They are pressure and temperature-resistant and are able to withstand strong vibration and water hammer.

## Product Advantages

### For Use in Many Environments

Manufactured in 316L stainless steel  
Suitable for all environments and fluids  
Resistant to water hammer and vibration  
Excellent sealing and retention of the tube  
Suitable for pneumatic and medium pressure hydraulic applications  
Metallic sealing guarantees maximum service life

### Many Tube Options

Possibility of easily connecting different tube materials and diameters to the same fitting body  
No tube support required for rigid and semi-rigid polyamide tubing below 12 mm



**Applications**  
Food Process  
Fluid Transmission  
Pneumatics  
Automotive Process  
Petrochemical  
Chemical  
Offshore Oil & Gas

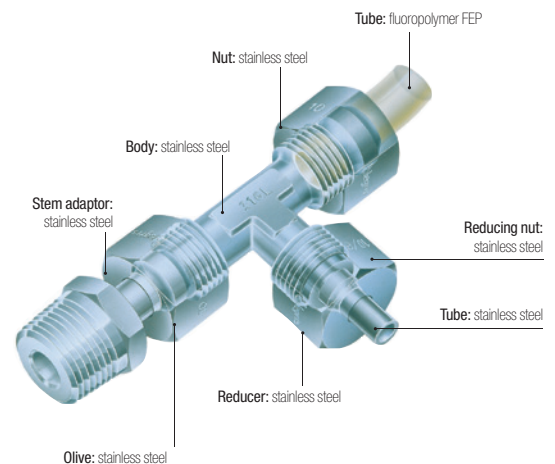
## Technical Characteristics

Compatible Fluids	Many fluids				
Working Pressure	Vacuum to 400 bar (80 bar in corrosive environments)				
Working Temperature	-40°C to +250°C				

Tightening Torques	DN	6	8	10	12	16
	daN.m	2	3	4	6.5	9.5

Reliable performance is dependent upon the type of fluid conveyed and tubing being used. Guaranteed for use with a vacuum of 755 mm Hg (99% vacuum).

### Component Materials



**Silicone-free**

### Maximum Bore Diameters

The table below shows the recommended compatibility of tube size, BSPP male thread and maximum bore.

Tube O.D	BSPP Thread	Max. Bore
6	G1/8	4
6-8-10	G1/4	7
10-12	G3/8	11
16	G1/2	14

### Tube Length for Assembly

Minimum length of tube (L) between 2 fittings.



ØD	L mm	ØD	L mm
4	26.5	10	39
6	26	12	39
8	32	16	46.5

### Regulations

DI: 2002/95/EC (RoHS), 2011/65/EC  
DI: 97/23/EC (PED)  
RG: 1935/2004  
RG: 1907/2006 (REACH)  
DI: 94/09/EC (ATEX)  
FDA: 21 CFR 177.1550  
NACE MR0175: compatible materials  
ISO 15156-1/-2/-3: compatible materials

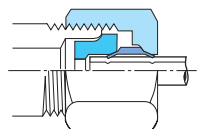
# Stainless Steel Compression Fittings

## Installation

### Fitting

The fitting comprises three parts (body/olive/nut). For assembly procedure, please see Brass Compression Fitting page.

### Diagram: Assembled Fitting

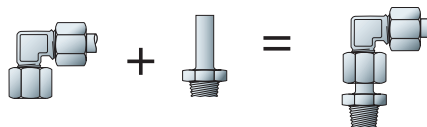


A very slight distortion of the tube appears; this shows the fitting has been correctly tightened.

### Orientable Elbow Assembly

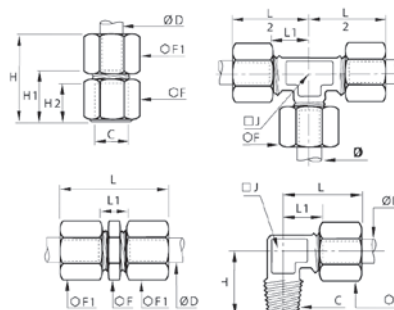
Elbow  
**1802**

Adaptor  
**1820**



### Customised Fittings

If our standard range does not meet your needs, Parker Legris can develop customised solutions for your applications.



## Technical Characteristics

The use of Parker Legris stainless steel compression fittings is dependant on the tube material. Tables of recommended working pressure for the different tubes are shown below.

### Recommended Tube Type

**Semi-rigid polyamide or fluoropolymer tube**

#### Stainless steel tube

"Thin Wall" cold-drawn seamless, annealed and passivated:  
wall thickness tolerance  $\pm 0.1$  mm.

For use with "thin wall" stainless steel tube from 6 mm to 16 mm O.D.,  
maximum wall thickness 1 mm.

### Recommended Tube/Fitting Assembly Configurations

Assembled using Parker Legris olive and nut in stainless steel, with a tube support.

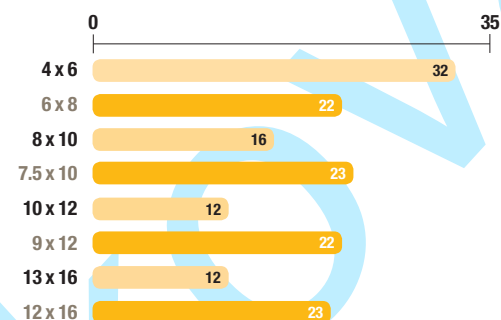
#### Stainless steel tube

Stainless steel tube: in cold-rolled straight lengths

Coiled annealed stainless tube: reduces working pressure by 35%; do not use if there is vibration.

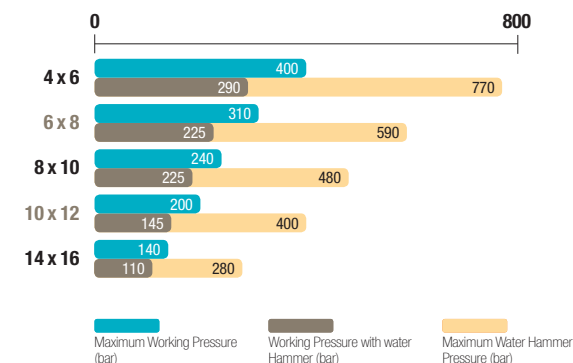
#### Semi-Rigid Polyamide Tube

Maximum Working Pressure (bar)



#### Stainless Steel Tube

Maximum Working Pressure (bar)



### Working Pressure Coefficients for Semi-Rigid Tubing


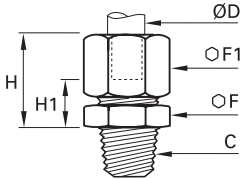
Temperature °C	-40°C / -15°C	-15°C / +30°C	+30°C / +50°C	+50°C / +70°C	+70°C / +100°C
Factor	1.8	1	0.68	0.55	0.31

The above recommendations are given in good faith. However, since each application is different, it is advisable to undertake tests in actual working conditions.

# Stainless Steel Compression Fittings


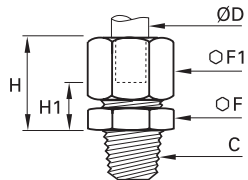
**1805**

Stud Fitting, Male BSPT Thread

Stainless steel 316L		ØD	C		F	F1	H <sub>max</sub>	H1	kg
		6	R1/8	<a href="#">1805 06 10</a>	12	13	19.5	7.5	0.017
			R1/4	<a href="#">1805 06 13</a>	14	13	19.5	7.5	0.025
		8	R1/8	<a href="#">1805 08 10</a>	13	14	21	7	0.019
			R1/4	<a href="#">1805 08 13</a>	14	14	21	7	0.024
		10	R1/4	<a href="#">1805 10 13</a>	17	19	25.5	9	0.044
			R3/8	<a href="#">1805 10 17</a>	17	19	25.5	9	0.049
			R1/2	<a href="#">1805 10 21</a>	22	19	26.5	10	0.076
		12	R1/4	<a href="#">1805 12 13</a>	19	22	26	9	0.054
			R3/8	<a href="#">1805 12 17</a>	19	22	26	9	0.058
			R1/2	<a href="#">1805 12 21</a>	22	22	27	10	0.081
		16	R3/8	<a href="#">1805 16 17</a>	24	27	28.5	9.5	0.086
			R1/2	<a href="#">1805 16 21</a>	24	27	28.5	9.5	0.094


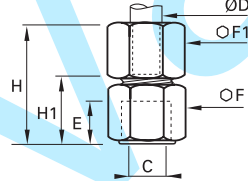
**1805**

Stud Fitting, Male NPT Thread

Stainless steel 316L		ØD	C		F	F1	H <sub>max</sub>	H1	kg
		6	NPT1/8	<a href="#">1805 06 11</a>	12	13	19.5	7.5	0.018
			NPT1/4	<a href="#">1805 06 14</a>	14	13	19.5	7.5	0.027
			NPT3/8	<a href="#">1805 06 18</a>	19	13	20.5	8.5	0.033
			NPT1/2	<a href="#">1805 06 22</a>	22	13	21.5	9.5	0.049
		8	NPT1/8	<a href="#">1805 08 11</a>	13	14	21	7	0.020
			NPT1/4	<a href="#">1805 08 14</a>	14	14	21	7	0.027
		10	NPT1/4	<a href="#">1805 10 14</a>	17	19	25.5	9	0.045
			NPT3/8	<a href="#">1805 10 18</a>	19	19	25.5	9	0.055
			NPT1/2	<a href="#">1805 10 22</a>	22	19	26.5	10	0.083
		12	NPT1/4	<a href="#">1805 12 14</a>	19	22	26	9	0.056
			NPT3/8	<a href="#">1805 12 18</a>	19	22	26	9	0.061
			NPT1/2	<a href="#">1805 12 22</a>	22	22	27	10	0.087
		16	NPT3/8	<a href="#">1805 16 18</a>	24	27	28.5	9.5	0.087
			NPT1/2	<a href="#">1805 16 22</a>	24	27	28.5	9.5	0.097

**1814**


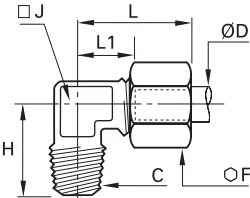
Stud Fitting, Female BSPP Thread

Stainless steel 316L		ØD	C		E	F	F1	H <sub>max</sub>	H1	kg
		6	G1/8	<a href="#">1814 06 10</a>	7.5	14	13	29	17	0.023
			G1/4	<a href="#">1814 06 13</a>	11	17	13	29	21	0.032
		8	G1/4	<a href="#">1814 08 13</a>	11	17	14	34.5	20.5	0.033
		10	G3/8	<a href="#">1814 10 17</a>	11.5	22	19	38.5	22	0.064
			G1/2	<a href="#">1814 10 21</a>	15	27	19	43	26.5	0.093
		12	G3/8	<a href="#">1814 12 17</a>	11.5	22	22	39	22	0.072
			G1/2	<a href="#">1814 12 21</a>	15	27	22	43.5	26.5	0.100
		16	G1/2	<a href="#">1814 16 21</a>	15	27	27	45	26	0.120

# Stainless Steel Compression Fittings


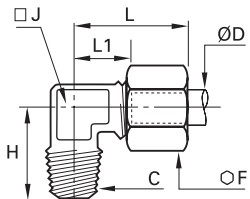
1809

## Stud Elbow, Male BSPT Thread

Stainless steel 316L		ØD	C		F	H	J	L <sub>max</sub>	L1	kg
		6	R1/8	<a href="#">1809 06 10</a>	13	18	8	25.5	13.5	0.021
			R1/4	<a href="#">1809 06 13</a>	13	23	10	25.5	13.5	0.030
		8	R1/8	<a href="#">1809 08 10</a>	14	20.5	10	28.5	14.5	0.027
			R1/4	<a href="#">1809 08 13</a>	14	23	10	28.5	14.5	0.031
		10	R1/4	<a href="#">1809 10 13</a>	19	25	12	32.5	16	0.050
			R3/8	<a href="#">1809 10 17</a>	19	25.5	12	32.5	16	0.058
		12	R1/2	<a href="#">1809 12 21</a>	19	32	18	36.5	20	0.091
			R1/4	<a href="#">1809 12 13</a>	22	26	14	34	17	0.067
		12	R3/8	<a href="#">1809 12 17</a>	22	27	14	34	17	0.070
			R1/2	<a href="#">1809 12 21</a>	22	32	18	37	20	0.098
		16	R3/8	<a href="#">1809 16 17</a>	27	28.5	18	39.5	21	0.107
			R1/2	<a href="#">1809 16 21</a>	27	31.5	18	39.5	21	0.114


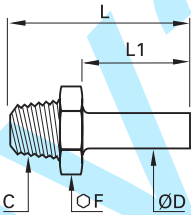
1809

## Stud Elbow, Male NPT Thread

Stainless steel 316L		ØD	C		F	H	J	L <sub>max</sub>	L1	kg
		6	NPT1/8	<a href="#">1809 06 11</a>	13	19.5	8	25.5	13.5	0.022
			NPT1/4	<a href="#">1809 06 14</a>	13	25.5	10	25.5	13.5	0.031
			NPT3/8	<a href="#">1809 06 18</a>	13	28	12	27	15	0.046
			NPT1/2	<a href="#">1809 06 22</a>	13	34	12	29	17	0.072
		8	NPT1/8	<a href="#">1809 08 11</a>	14	22	10	28.5	14.5	0.028
			NPT1/4	<a href="#">1809 08 14</a>	14	25.5	10	28.5	14.5	0.033
		10	NPT1/4	<a href="#">1809 10 14</a>	19	27.5	12	32.5	16	0.052
			NPT3/8	<a href="#">1809 10 18</a>	19	28	12	32.5	16	0.061
		12	NPT1/2	<a href="#">1809 10 22</a>	19	35	18	36.5	20	0.096
			NPT1/4	<a href="#">1809 12 14</a>	22	28.5	14	34	17	0.069
		12	NPT3/8	<a href="#">1809 12 18</a>	22	29.5	14	34	17	0.074
			NPT1/2	<a href="#">1809 12 22</a>	22	35	18	37	20	0.102
		16	NPT3/8	<a href="#">1809 16 18</a>	27	31	18	39.5	21	0.110
			NPT1/2	<a href="#">1809 16 22</a>	27	34.5	18	39.5	21	0.116


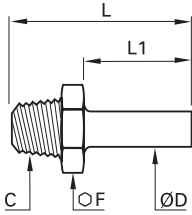
1820

## Stud Standpipe, Male BSPT Thread

Stainless steel 316L		ØD	C		F	L	L1	kg
		6	R1/8	<a href="#">1820 06 10</a>	12	26.5	15	0.009
			R1/4	<a href="#">1820 06 13</a>	14	31	15	0.017
		8	R1/8	<a href="#">1820 08 10</a>	12	28.5	17	0.008
			R1/4	<a href="#">1820 08 13</a>	14	33	17	0.016
		10	R1/4	<a href="#">1820 10 13</a>	14	36	20	0.016
			R3/8	<a href="#">1820 10 17</a>	17	36.5	20	0.025
		12	R1/2	<a href="#">1820 10 21</a>	22	41	20	0.052
			R1/4	<a href="#">1820 12 13</a>	14	36	20	0.016
		12	R3/8	<a href="#">1820 12 17</a>	17	36.5	20	0.022
			R1/2	<a href="#">1820 12 21</a>	22	41	20	0.048
		16	R3/8	<a href="#">1820 16 17</a>	17	39.5	23	0.022
			R1/2	<a href="#">1820 16 21</a>	22	44	23	0.038


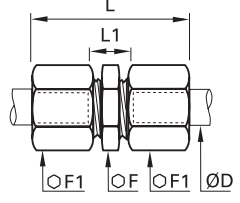
1820

## Stud Standpipe, Male NPT Thread


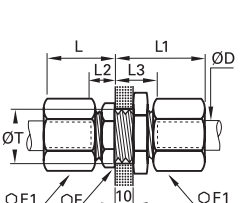
Stainless steel 316L		ØD	C		F	L	L1	kg
		6	NPT1/8	<a href="#">1820 06 11</a>	12	26.5	15	0.009
			NPT1/4	<a href="#">1820 06 14</a>	14	31	15	0.019
		8	NPT1/8	<a href="#">1820 08 11</a>	12	28.5	17	0.009
			NPT1/4	<a href="#">1820 08 14</a>	14	33	17	0.019
		10	NPT1/4	<a href="#">1820 10 14</a>	14	36	20	0.018
			NPT3/8	<a href="#">1820 10 18</a>	19	36.5	20	0.032
		12	NPT1/2	<a href="#">1820 10 22</a>	22	41	20	0.060
			NPT1/4	<a href="#">1820 12 14</a>	14	36	20	0.019
		12	NPT3/8	<a href="#">1820 12 18</a>	19	36.5	20	0.028
			NPT1/2	<a href="#">1820 12 22</a>	22	41	20	0.053
		16	NPT3/8	<a href="#">1820 16 18</a>	19	39.5	23	0.027
			NPT1/2	<a href="#">1820 16 22</a>	22	44	23	0.042

# Stainless Steel Compression Fittings


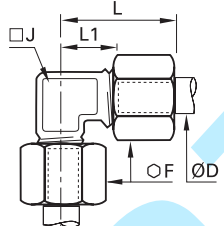
## 1806 Equal Tube-to-Tube Connector

	Stainless steel 316L		ØD		F		F1		L max		L1		kg	
			6	1806 06 00	12	13	34.5	11	0.025					
			8	1806 08 00	13	14	38.5	10	0.029					
			10	1806 10 00	17	19	46	13	0.066					
			12	1806 12 00	19	22	47	13	0.085					
			16	1806 16 00	24	27	51	13	0.135					


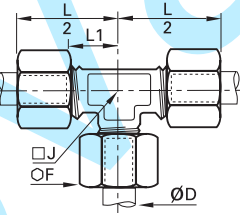
## 1816 Equal Bulkhead Connector

	Stainless steel 316L		ØD		F		F1		L max		L1 max		L2		L3		ØT min		kg	
			6	1816 06 00	13	13	28	19	7.5	17	10.5	0.034								
			8	1816 08 00	14	14	29	20	7	17	12.5	0.042								
			10	1816 10 00	19	19	33	25	9	19	16.5	0.094								
			12	1816 12 00	22	22	33	25	9	19	18.5	0.113								
			16	1816 16 00	27	27	36	28	9.5	19.5	22.5	0.179								

## 1802 Equal Elbow

	Stainless steel 316L		ØD		F		J		L max		L1		kg	
			6	1802 06 00	13	8	25.5	13.5	0.028					
			8	1802 08 00	14	10	28.5	14.5	0.035					
			10	1802 10 00	19	12	32.5	16	0.071					
			12	1802 12 00	22	14	34	17	0.093					
			16	1802 16 00	27	18	39.5	21	0.151					

## 1804 Equal Tee

	Stainless steel 316L		ØD		F		J		L1		L/2		kg	
			6	1804 06 00	13	8	13.5	25.5	0.040					
			8	1804 08 00	14	10	14.5	28.5	0.050					
			10	1804 10 00	19	12	16	32.5	0.103					
			12	1804 12 00	22	14	17	34	0.133					
			16	1804 16 00	27	18	21	39.5	0.214					

KOVAR S.r.l.

# Complementary Stainless Steel Fittings

## Reducers, Olives and Nuts

This innovative reducer system, using a full range of nuts and olives, enables **different diameters** of stainless steel, fluoropolymer or polymer tubes to be fitted onto **a single Parker Legris compression fitting**.

### Product Advantages

#### Efficient Solution

Reduces envelope dimensions  
Quick and easy to assemble, whatever the diameters and tube material  
Improved stock management  
Silicone-free

#### Multiple Combinations

A single connector for up to 3 different tube materials and sizes.  
Example: 

- Advanced PE tubing 6 mm O.D.
- stainless steel tubing 8 mm O.D.
- fluoropolymer tubing 12 mm O.D. or braided PVC hose 10 mm I.D.

A full range of olives and nuts to optimise all assembly operations



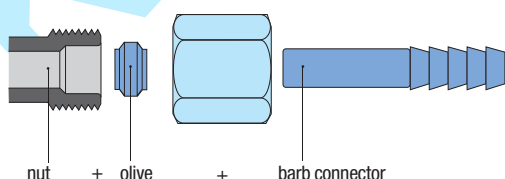
Food Process  
Fluid Transmission  
Pneumatics  
Automotive Process  
Petrochemical  
Cooling & Heating  
Chemical  
Offshore Oil & Gas

#### Applications

### Reducer Assembly Procedure

Operation	Assembly Sequence	Assembled Fitting
<b>1</b> <b>Assemble the reducer</b> Place the reducer in the fitting body.	<b>1</b> 	
<b>2</b> <b>Assemble the nut and olive</b> Place the nut and then the olive onto the tube.	<b>2</b> 	
<b>3</b> <b>Assemble the nut</b> Push the tube into the fitting until it bottoms on the reducer. Tighten the nut to the recommended torque (see opposite page).	<b>3</b> 	

### Assembly: Barb Connectors



#### Regulations

DI: 2002/95/EC (RoHS), 2011/65/EC  
 DI: 97/23/EC (PED)  
 RG: 1935/2004  
 RG: 1907/2006 (REACH)  
 DI: 94/09/EC (ATEX)  
 FDA: 21 CFR 177.1550  
 NACE MR0175: compatible materials  
 ISO 15156-1/-2/-3: compatible materials

Our barb connector 1822 is designed to be also used with different types of hose. It is secured using the nut and olive provided with the fitting.



# Stainless Steel Compression Fittings

## 1866 3-Piece Reducer

Stainless steel 316L		ØD1	ØD2		F	kg
		6	8	1866 06 08	14	0.011
			10	1866 06 10	19	0.028
			12	1866 06 12	22	0.040
		8	10	1866 08 10	19	0.026
			12	1866 08 12	22	0.037
			16	1866 08 16	27	0.071
		10	12	1866 10 12	22	0.034
			16	1866 10 16	27	0.065
			16	1866 12 16	27	0.061

## 1824 Stainless Steel Olive

Stainless steel 316L		ØD		kg
		6	1824 06 00	0.001
		8	1824 08 00	0.001
		10	1824 10 00	0.003
		12	1824 12 00	0.004
		16	1824 16 00	0.005

## 1810 Stainless Steel Nut

Stainless steel 316L		ØD	C		F	L	kg
		6	M10x1	1810 06 00	13	11	0.007
		8	M12x1	1810 08 00	14	13	0.008
		10	M16x1.5	1810 10 00	19	15	0.017
		12	M18x1.5	1810 12 00	22	15	0.024
		16	M22x1.5	1810 16 00	27	17	0.041

## 1822 Barb Adaptor for Hose

Stainless steel 316L		ØD1	ØD2		ØD3	L	L1	ØT min	kg
		6	7	1822 06 07	9	37.5	22.5	6	0.006
			6	1822 08 06	8	40	22.5	5	0.007
		8	7	1822 08 07	9	40	22.5	6	0.007
			10	1822 08 10	12.5	40	22.5	9	0.011
		10	7	1822 10 07	9	43	22.5	6	0.009
			10	1822 10 10	12.5	43	22.5	9	0.013
		12	10	1822 12 10	12.2	43	22.5	9	0.012
			13	1822 12 13	15	50	29.5	13	0.016

## 1827 Stainless Steel Tube Support

Stainless steel 316L		ØD1	ØD2		L	kg
		6	4	1827 06 00	11.5	0.001
		8	6	1827 08 00	14	0.001
		10	8	1827 10 00	18	0.001
		12	9	1827 12 09	18	0.001
			10	1827 12 00	18	0.001
		16	14	1827 16 00	18	0.002

This tube support is necessary when using fluoropolymer tubing at all temperatures compatible with the fitting/tubing assembly.

KOVAN S.r.o.